

**MONTANA DEPARTMENT OF ENVIRONMENTAL QUALITY
OPERATING PERMIT TECHNICAL REVIEW DOCUMENT**

**Permitting and Compliance Division
1520 E. Sixth Avenue
P.O. Box 200901
Helena, Montana 59620-0901**

**Northern Border Pipeline Company
Compressor Station No. 3
NE¼ of the NE¼, of Section 6, Township 28 North, Range 57 East
Roosevelt County, Montana**

The following table summarizes the air quality programs testing, monitoring, and reporting requirements applicable to this facility.

Facility Compliance Requirements	Yes	No	Comments
Source Tests Required	X		Method 22
Ambient Monitoring Required		X	
COMS Required		X	
CEMS Required		X	
Schedule of Compliance Required		X	
Annual Compliance Certification and Semiannual Reporting Required	X		As applicable
Monthly Reporting Required		X	
Quarterly Reporting Required		X	
Applicable Air Quality Programs			
ARM Subchapter 7 Preconstruction Permitting			2974-01
New Source Performance Standards (NSPS)	X		Subpart GG
National Emission Standards for Hazardous Air Pollutants (NESHAPS)		X	
Maximum Achievable Control Technology (MACT)		X	
Major New Source Review (NSR)		X	
Prevention of Significant Deterioration (PSD)		X	
Risk Management Plan Required (RMP)		X	
Acid Rain Title IV		X	
State Implementation Plan (SIP)	X		General SIP

TABLE OF CONTENTS

I.	GENERAL INFORMATION	3
A.	Purpose.....	3
B.	Facility Location	3
C.	Facility Background Information.....	3
D.	Current Permit Action.....	4
E.	Takings and Damaging Analysis	4
F.	Compliance Designation	4
II.	SUMMARY OF EMISSION UNITS	5
A.	Facility Process Description	5
B.	Emission Units and Pollution Control Device Identification	5
C.	Categorically Insignificant Sources/Activities	5
III.	PERMIT TERMS.....	6
A.	Emission Limits and Standards.....	6
B.	Monitoring Requirements	6
C.	Test Methods and Procedures	6
D.	Recordkeeping Requirements	7
E.	Reporting Requirements	7
IV.	NON-APPLICABLE REQUIREMENTS ANALYSIS	8
V.	FUTURE PERMIT CONSIDERATIONS.....	12
A.	NESHAP/MACT Standards.....	12
B.	NSPS Standards	12
C.	Risk Management Plan	12

I. GENERAL INFORMATION

A. Purpose

This document establishes the basis for the decisions made regarding the applicable requirements, monitoring plan, and compliance status of emissions units affected by the operating permit proposed for this facility. The document is intended for reference during review of the proposed permit by the EPA and the public. It is also intended to provide background information not included in the operating permit and to document issues that may become important during modifications or renewals of the permit. Conclusions in this document are based on information provided in the original application submitted by NBPL on December 23, 1996.

B. Facility Location

NBPL owns and operates the Compressor Station No. 3. This facility is located in the NE¼ of the NE¼ of Section 6, Township 28 North, Range 57 East, in Roosevelt County, Montana. This site is approximately 4 miles north of Culbertson, Montana. Compressor Station No.3 is located at an existing microwave station. The total property area covered by this facility is 20 acres. Roosevelt County is designated as an Unclassifiable/Attainment area for National Ambient Air Quality Standards (NAAQS) for all criteria pollutants.

C. Facility Background Information

On December 23, 1996, NBPL submitted a complete permit application to construct and operate Compressor Station No. 3 in Roosevelt County, Montana. This facility would consist of one 40,350-hp Cooper-Rolls, 6562-DLE Coberra; one 245-kW emergency backup generator engine; one 1.706 MMBtu/hr hydronic boiler; and one 15-kW emergency backup generator. The application stated the estimated start date as 8/97 and the estimated completion date as 11/98. A preconstruction permit was issued for this facility on 3/9/97. The application also indicated that the site will be unmanned, with zero permanent new employees as a result of the proposed project. This facility has the potential to emit greater than 100 tons per year of NO_x and is therefore required to obtain an operating permit. This facility is a NSPS Subpart GG affected source because the Cooper-Rolls Coberra meets the definition of a stationary gas turbine and was manufactured after October 3, 1997. The Cooper-Rolls Coberra will have an internal dry low NO_x combustion as its control device, which constitutes BACT for this facility.

Permit #OP2974-00 established the basis for the decisions made regarding the applicable requirements, monitoring plan, and compliance status of emission units affected by the operating permit proposed for this facility. This document was intended for reference during review of the proposed permit by the EPA and the public. It was also intended to provide background information not included in the operating permit and to document issues that may become important during modifications or renewals of the operating permit. Conclusions in this document were based on information provided in the original operating permit application submitted by Northern Border Pipeline Company (NBPL) and received by the Department on December 23, 1996.

On February 21, 2001, the Montana Department of Environmental Quality (Department) received a request from NBPL for a revision of Permit #2974-00 to alter the custom fuel monitoring schedule and equipment for Compressor Station 3 located in Roosevelt County, Montana. The chromatograph was replaced with an H₂S and Total Sulfur Analyzer and the custom fuel schedule was structured to allow a representative sample to be recorded every 2 weeks with an option of extending the sampling schedule to once every six months as approved by the Department.

Permit #OP2974-01 replaced Permit #OP2974-00.

On October 9, 2001, the Department received a request from NBPL for a modification to Permit #OP2974-01. The modification was an administrative amendment, which changed the responsible official for the facility. **Permit #OP2974-02** replaced Permit #OP2974-01.

On February 3, 2003, the Department received a request from NBPL for an administrative amendment to Permit #OP2974-02. The modification was an administrative amendment, which changed the responsible official and the corporate office address for the facility. **Permit #OP2974-03** replaced Permit #OP2974-02.

D. Current Permit Action

On February 3, 2003, the Department received a request from NBPL for an administrative ammendment to Permit #OP2974-03. The responsible officials name was changed in error on Permit #OP2974-03. Permit #OP2974-04 changes the responsible official from Jay Muschenheim back to Randy Rice and changes the facility contact from Ruth Jensen to Jay Muschenheim. **Permit #OP2974-04** replaces Permit #OP2974-03.

E. Takings and Damaging Analysis

HB 311, the Montana Private Property Assessment Act, requires analysis of every proposed state agency administrative rule, policy, permit condition or permit denial, pertaining to an environmental matter, to determine whether the state action constitutes a taking or damaging of private real property that requires compensation under the Montana or U.S. Constitution. As part of issuing an operating permit, the Department is required to complete a Taking and Damaging Checklist. The checklist was completed on April 10, 1998.

F. Compliance Designation

The Department has not inspected this site for air quality purposes. However, all the material reviewed in the Department's files indicates that the facility is in compliance with all the applicable requirements. All source tests shall be conducted in accordance with the Montana Source Test Protocol and Procedures Manual.

II. SUMMARY OF EMISSION UNITS

A. Facility Process Description

The NBPL Compressor Station No. 3 is a natural gas pipeline transmission station with one Cooper-Rolls Coberra, natural gas fired turbine. A hot water boiler provides the heat to the various station facilities.

The Standard Industrial Classification (SIC) for this facility is "Natural Gas Transmission" which has an SIC Code of 4922.

B. Emission Units and Pollution Control Device Identification

The NBPL Compressor Station No. 3 application identified one 40,350-hp Cooper-Rolls Coberra 6562 Compressor Turbine, one 245-kW emergency backup generator engine, one 1.706-MMBtu/hr hydronic boiler, and one 15-kW emergency backup generator.

The Cooper-Rolls Coberra will contain a dry low NO_x combustion system as part of the turbine design, this design and operating practice constitutes BACT for this facility. No pollution control devices exist on the two emergency backup generator engines or the hydronic boiler.

C. Categorically Insignificant Sources/Activities

The Administrative Rules of Montana ((ARM) 17.8.120 (22)(a)) defines an insignificant emissions unit as one that emits less than 5 tons per year of any regulated pollutant, has the potential to emit less than 500 pounds per year of lead or any hazardous air pollutant, and is not regulated by an applicable requirement other than a generally applicable requirement.

This facility has a 1.706 MMBtu/hr Hydronic Boiler, used for heating buildings and fuel preheat as needed. This boiler meets the definition of insignificant emissions unit except that it must utilize pipeline quality natural gas. Therefore, because it is subject to more than the generally applicable requirements, it is not an insignificant emissions unit.

III. PERMIT TERMS

A. Emission Limits and Standards

Emission limits for the 40,350-hp Cooper-Rolls Coberra Compressor Turbine were established by a BACT determination under the authority of ARM 17.8.752. The compressor turbine has an emission limit of 40 ppmvd and 50.0 lb/hr for NO_x and 3.00 lb/hr for VOC. Sulfur content in the fuel shall not exceed 0.08% by weight and sulfur dioxide content in the fuel shall not exceed 0.015% by volume at 15% oxygen on a dry basis. The two emergency generator engines are limited to 500 hours of operation per year in order to comply with the EPA definition of an "emergency back up generator".

NBPL shall comply with all applicable standards, limitations, and the reporting, recordkeeping, and notification requirements contained in 40 CFR Part 60, Subpart GG unless otherwise specified (ARM 17.8.340 and 40 CFR Part 60).

The emission units at this facility are not subject to any current MACT or NESHAP standards. This facility is not subject to PSD regulations.

B. Monitoring Requirements

40 CFR 70.6(a)(3) calls for an operating permit to contain periodic monitoring or testing sufficient to yield reliable data that is representative of the source's compliance with the permit. These monitoring requirements shall assure that use of terms, test methods, units, averaging periods, and other statistical conventions consistent with the applicable requirements. These requirements do not warrant the permit to impose the same level of rigor for all emission units. Furthermore, it does not require extensive testing or monitoring for emission units under normal operating conditions that do not have significant potential to violate emission limitations or other requirements. When compliance is not threatened by a lack of a regular monitoring program and when periodic testing or monitoring is not imposed by an applicable requirement, then "no monitoring" will meet section 70.6(a)(3). Therefore, this permit does not include monitoring for insignificant emission units.

This permit includes periodic monitoring or recordkeeping for each applicable requirement. The information obtained from the monitoring and recordkeeping will be used by the permittee to periodically certify compliance with the emission limits and standards. However, the Department may request additional testing to determine compliance with the emission limits and standards.

The semi-annual testing with the portable analyzer will provide NBPL and the Department with data to assure compliance with the NO_x emission limits in this permit. The gas chromatography with flame ionization detection will provide data to be used in determining the sulfur content of the fuel. Since the fuel consumed by the emissions units is pipeline quality natural gas, the potential to exceed the opacity and particulate in fuel conditions in this permit is negligible. Therefore, the recordkeeping provisions of this permit should demonstrate compliance with these conditions. Likewise, the threat of exceeding the fugitive particulate limitation is unlikely; therefore, documenting any reasonable precautions taken to control emissions of airborne particulate matter will satisfy the requirements in this permit.

C. Test Methods and Procedures

NBPL shall conduct an emissions test with a portable analyzer in order to determine the NO_x emissions from the turbine once every six months. The portable analyzer shall be capable of achieving performance specifications equivalent to EPA traditional methods defined in 40 CFR 60, Appendix A or shall be capable of meeting the requirements of EPA Conditional Test Method 022 for the "Determination of Nitric Oxide, Nitrogen Dioxide, and NO_x Emissions from Stationary Combustion Sources by Electrochemical Analyzer." NBPL shall demonstrate compliance with the NO_x limitations by converting the emission test results (ppm) to a mass emission rate (lb/hr) using EPA Method 19 in 40 CFR 60, Appendix A. NBPL may use another testing procedure as approved in advance by the Department (ARM 17.8.105 and ARM 17.8.106).

D. Recordkeeping Requirements

The recordkeeping provisions shall be sufficient to meet the provisions of the monitoring requirements and shall include, as necessary, the installation, use and maintenance of the monitoring equipment or methods as well as the following information: the date the analyses were performed, the place and time of the sampling, the company or entity performing the sampling, the analytical techniques or methods used, the results of such analyses, and the operating conditions at the time of the analyses. Retention of the records of all required monitoring data and support information shall be for a period of at least 5 years from the date of measurement. Support information includes: all calibration and maintenance records and all original strip-chart recordings for continuous monitoring instrumentation, and copies of all reports required by the operating permit.

E. Reporting Requirements

The permittee is required to submit to the Department reports of any required monitoring at least every 6 months and to annually certify compliance with the applicable requirements contained in the permit. All deviations from permit requirements must be clearly identified in these reports. The responsible official must certify all reports. The permittee is also required to promptly report any deviations from the permit requirements due to upset conditions and the probable cause of the upset condition along with any corrective actions or preventive measures taken.

IV. NON-APPLICABLE REQUIREMENTS ANALYSIS

Section IV of the operating permit "Non-applicable Requirements" contains the requirements that the Department determined were non-applicable. The following table summarizes the requirements that NBPL identified as non-applicable and contains the reasons that the Department did not include these requirements as non-applicable in the permit.

Requirements Not Identified in the Operating Permit

Applicable Requirement		Reason
Sub-Chapter 1 General Provisions		
ARM 17.8.101	Definitions	These rules consist of either a statement of purpose, applicability statement, regulatory definitions or a statement of incorporation by reference. These types of rules do not have specific requirements associated with them.
ARM 17.8.102	Incorporation by Reference - Publication Dates and Availability of Referenced Documents	
ARM 17.8.103	Incorporation by Reference	
Sub-Chapter 2 Ambient Air Quality		
ARM 17.8.201	Definitions	These rules consist of either a statement of purpose, applicability statement, regulatory definitions or a statement of incorporation by reference. These types of rules do not have specific requirements associated with them.
ARM 17.8.202	Incorporation by Reference	
ARM 17.8.205	Enforceability	These rules are always applicable to a major source and may contain specific requirements for compliance. However, these rules have been excluded as an applicable requirement (ARM 17.8.1202).
ARM 17.8.206	Methods and Data	
ARM 17.8.210	Ambient Air Quality Standard for Sulfur Dioxide	
ARM 17.8.211	Ambient Air Quality Standard for Nitrogen Dioxide	
ARM 17.8.212	Ambient Air Quality Standard for Carbon Monoxide	
ARM 17.8.213	Ambient Air Quality Standard for Ozone	
ARM 17.8.214	Ambient Air Quality Standard for Hydrogen Sulfide	
ARM 17.8.220	Ambient Air Quality Standard for Settled Particulate Matter	
ARM 17.8.221	Ambient Air Quality Standard for Visibility	
ARM 17.8.222	Ambient Air Quality Standard for Lead	
ARM 17.8.223	Ambient Air Quality Standard for PM-10	
ARM 17.8.230	Fluoride in Forage	
Sub-Chapter 3 Emission Standards		
ARM 17.8.326	Prohibited Materials for Wood or Coal Residential Stoves	This regulation may not be applicable to the source at this time, however, it may become applicable during the life of the permit.
ARM 17.8.330	Definitions	This rule consists of either a statement of purpose, applicability statement, regulatory definition or a statement of incorporation by reference. These types of rules do not have specific requirements associated with them.

Applicable Requirement	Reason
Sub-Chapter 4 Stack Heights	
ARM 17.8.401 Definitions	This rule consists of either a statement of purpose, applicability statement, regulatory definition or a statement of incorporation by reference. These types of rules do not have specific requirements associated with them.
ARM 17.8.402 Requirements ARM 17.8.403 Exemptions	These are procedural rules that have specific requirements that may become relevant to a major source during the permit span.
Sub-Chapter 5 Air Quality Permit Application, Operation and Open Burning Fees	
ARM 17.8.504 Air Quality Permit Application Fees ARM 17.8.514 Air Quality Open Burning Fees ARM 17.8.515 Air Quality Open Burning Fees for Conditional, Emergency, Christmas Tree Waste, and Commercial Film Production Open Burning Permits	These are procedural rules that have specific requirements that may become relevant to a major source during the permit span
Sub-Chapter 6 Open Burning	
ARM 17.8.606 Minor Open Burning Requirements ARM 17.8.611 Emergency Open Burning Permits ARM 17.8.612 Conditional Air Quality Open Burning Permits	The following regulations may not be applicable to the source at this time, however, these regulations may become applicable during the life of the permit.
Sub-Chapter 7 Permit, Construction and Operation of Air Contaminant Sources	
ARM 17.8.740 <i>et seq.</i> Permit, construction and operation of air contaminant sources	The following regulations may not be applicable to the source at this time, however, these regulations may become applicable during the life of the permit.
Sub-Chapter 8 Prevention of Significant Deterioration	
ARM 17.8.825 Sources Impacting Federal Class I Areas - Additional Requirements ARM 17.8.826 Public Participation	These rules do not have specific requirements for major sources because they are requirements for EPA or state and local authorities. Furthermore, these rules can be used as authority to impose specific requirements on a major source.
ARM 17.8.804 Ambient Air Increments	The following regulations may not be applicable to the source at this time, however, these regulations may become applicable during the life of the permit
Sub-Chapter 9 Permit Requirements for Major Stationary Sources or Major Modifications Located Within Nonattainment Areas	
ARM 17.8.901 Definitions ARM 17.8.902 Incorporation by Reference	These rules consist of either a statement of purpose, applicability statement, regulatory definitions or a statement of incorporation by reference. These types of rules do not have specific requirements associated with them.

Applicable Requirement		Reason
ARM 17.8.904	When Air Quality Preconstruction Permit Required	These regulations are state regulations that may not be applicable to the source at this time, however, these regulations may become applicable during the life of the permit.
ARM 17.8.905	Additional Conditions of Air Quality Preconstruction Permit	
ARM 17.8.906	Baseline for Determining Credit for Emissions and Air Quality Offsets	
Sub-Chapter 10 Preconstruction Permit Requirements for Major Stationary Sources or Major Modifications Located Within Attainment or Unclassified Areas		
ARM 17.8.1001	Definitions	These rules consist of either a statement of purpose, applicability statement, regulatory definitions or a statement of incorporation by reference. These types of rules do not have specific requirements associated with them.
ARM 17.8.1002	Incorporation by Reference	
ARM 17.8.1004	When Air Quality Preconstruction Permit Required	These regulations may not be applicable to the source at this time, however, these regulations may become applicable during the life of the permit.
ARM 17.8.1005	Additional Conditions of Air Quality Preconstruction Permit	
ARM 17.8.1006	Review of Specified Sources for Air Quality Impact	
ARM 17.8.1007	Baseline for Determining Credit for Emissions and Air Quality Offsets	
Sub-Chapter 11 Visibility Impact Assessment		
ARM 17.8.1101	Definitions	These rules consist of either a statement of purpose, applicability statement, regulatory definitions or a statement of incorporation by reference. These types of rules do not have specific requirements associated with them.
ARM 17.8.1103	Applicability --Visibility Requirements	
ARM 17.8.1108	Notification of Permit Application	These rules do not have specific requirements for major sources because they are requirements for EPA or state and local authorities. Furthermore, these rules can be used as authority to impose specific requirements on a major source.
ARM 17.8.1109	Adverse Impact and Federal Land Management	
Federal Requirements		
40 CFR 50 National Primary and Secondary Ambient Air Quality Standards 40 CFR 51 Requirements for Preparation, Adoption, and Submittal of Implementation Plans 40 CFR 58 Ambient Air Quality Surveillance		These rules do not have specific requirements for major sources because they are requirements for EPA or state and local authorities. Furthermore, these rules can be used as authority to impose specific requirements on a major source
40 CFR 52 Approval and Promulgation of Implementation Plans 40 CFR 62 Approval and Promulgation of State Plans for Designated Facilities and Pollutants 40 CFR 70 and 71 State Operating Permit Programs and EPA Regulations on Federal Operating Permit Programs		
40 CFR 60.11 Compliance with Standards and		These regulations mav not be applicable to the

Applicable Requirement	Reason
Maintenance Requirements 40 CFR 60.14 Modification 40 CFR 60.15 Reconstruction	source at this time, however, these regulations may become applicable during the life of the permit.
40 CFR 61, Subpart M National Emissions Standards for Hazardous Air Pollutants - Asbestos	This is a federal regulation that has specific procedural requirements that may become relevant to the major source during the permit term.
40 CFR 63, Subpart A General Provisions	These federal regulations consist of an applicability statement. These regulations may not be applicable to the source at this time, however, these regulations may become applicable during the life of the permit.

V. FUTURE PERMIT CONSIDERATIONS

A. NESHAP/MACT Standards

National Emission Standards for Hazardous Air Pollutants From Oil and Natural Gas Production Facilities (40 CFR Part 63 Subpart HH) and National Emission Standards for Hazardous Air Pollutants From Natural Gas Transmission and Storage Facilities (40 CFR Part 63, Subpart HHH) was promulgated June 17, 1999. As of January 6, 2002, the Department has not made an applicability determination.

B. NSPS Standards

As of the issuance date of Permit #OP2974-04, this facility is subject to 40 CFR Part 60, Subpart GG, Standards of Performance for Stationary Gas Turbines.

C. Risk Management Plan

As of the issuance date of Permit #OP2974-04, this facility does not have any substance listed in 40 CFR 68.115 or 40 CFR 68.130, which exceeds the minimum threshold quantities. Also, this facility is subject to DOT regulations for accidental release prevention; consequently, this facility is not required to submit a Risk Management Plan.